OPERATOR'S MANUAL

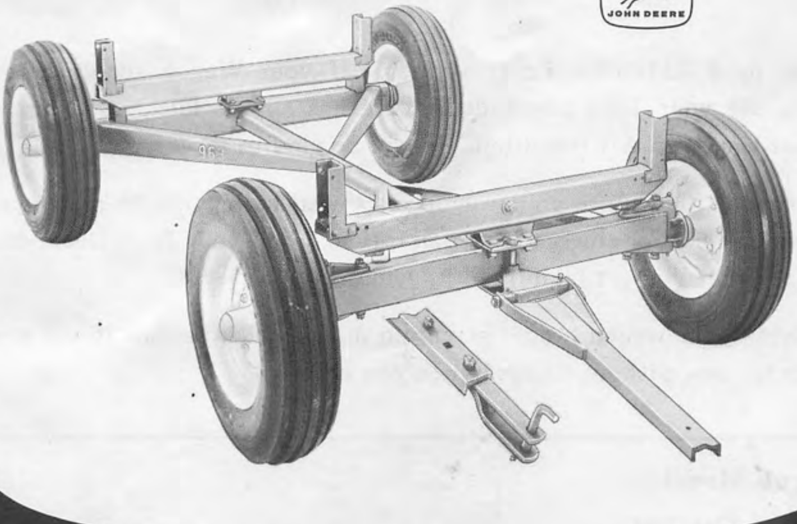
OM-W13644

ISSUE L7

JOHN DEERE

963

WAGON



TO THE PURCHASER

This manual contains valuable information about your John Deere Wagon. In this manual you will find instructions and helpful suggestions for operating and servicing your new Wagon.

Keep this manual in a convenient place for quick and easy reference. Use it as a guide whenever questions arise. You have purchased a dependable, sturdy wagon, but only by proper care and operation can you expect to receive the service and long life designed and built into it.

STUDY THIS MANUAL CAREFULLY AND KEEP IT HANDY IN A SAFE PLACE FOR FUTURE REFERENCE.

If you need additional information, or if your Wagon requires special servicing, see your John Deere dealer. He has all the facilities required to keep your wagon in A-1 condition. He will be glad to serve you.

Sometime in the future your wagon may need new parts, to replace worn or broken parts or for emergency repairs. If so, go to your John Deere dealer. He will see that you get high-quality, genuine John Deere parts.

By giving your wagon proper attention during slack periods it will always be ready for use, without delays, when you need it.

Wagon Model..

Date of Purchase..

(To Be Recorded by Purchaser)

Price $ .35

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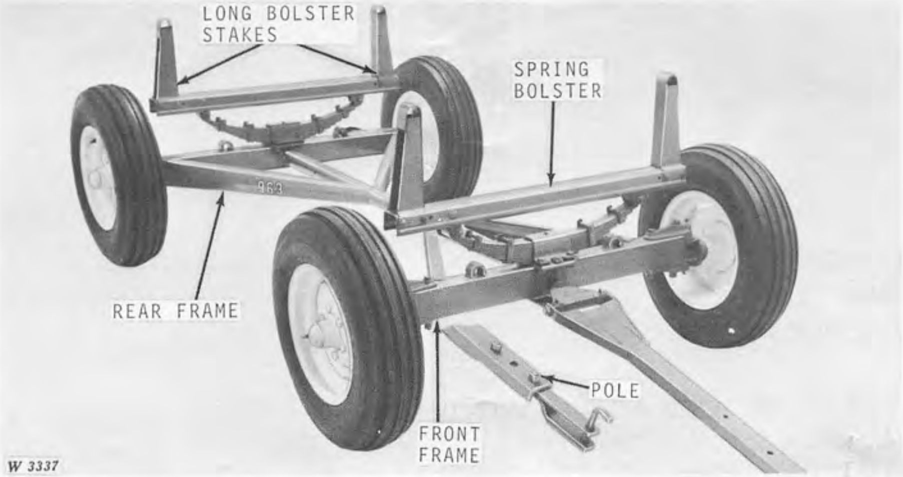
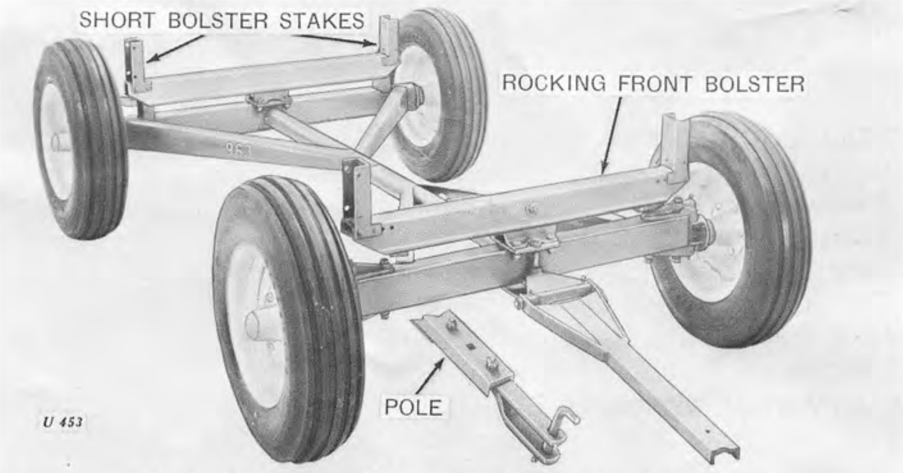
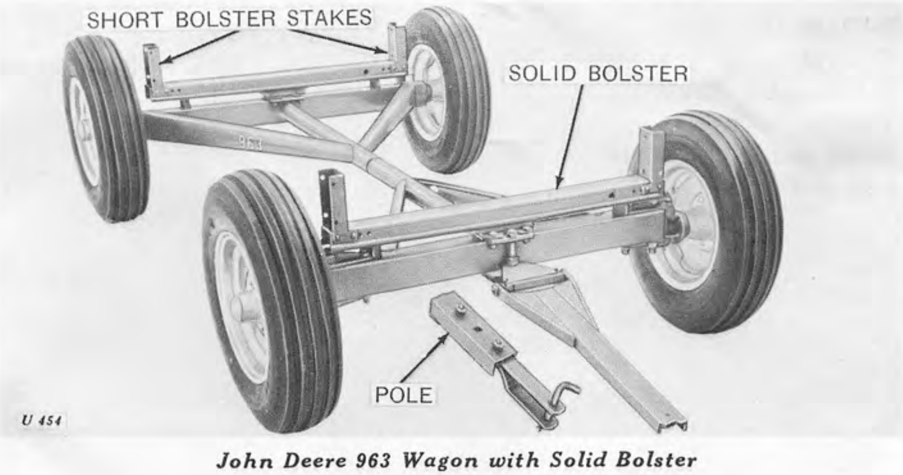


John Deere 963 Wagon with Spring Bolster



John Deere 963 Wagon with Rocking Front Bolster



John Deere 963 Wagon with Solid Bolster

SPECIFICATIONS

MODEL	963 Wagon.
OPERATING SPEED	20 miles per hour maximum recommended speed (see page 4).
WEIGHT	814 lbs., with springs and with tires. 701 lbs., with bolsters and with tires. 726 lbs., with rocking bolsters and with tires. 666 lbs., with springs and without tires. 553 lbs., with bolsters and without tires. 578 lbs., with rocking bolsters and without tires.
BOLSTER HEIGHT FROM GROUND—LOADED	25 inches with spring bolster. 23-1/2 inches with rocking bolster. 22 inches with solid bolster. 24 inches with high solid bolster. With 7.50 x 16 Tires
WIDTH	72 inches over-all.
WIDTH OF TREAD	62 inches.
WHEEL BASE	With regular reach, adjustable from 83 to 131 inches in 6-inch steps. With long reach, adjustable from 119 to 167 inches in 12-inch steps. With extra long reach—17, 18 and 19 feet.
TURNING RADIUS	12 feet, 9 inches.
WHEELS	Disk type, with 16x6L, 15x6L, or 14x6K drop center rims.
WHEEL BEARINGS	Tapered roller bearings.
TIRES	7.50x16, 8-ply ribbed implement tires available for 16-inch wheels; 7.60x15, 6-ply and 11.00x15, 8-ply ribbed implement tires available for 15-inch wheels.
FRONT AND REAR FRAMES	Box welded steel construction.
BOLSTERS	Available with solid bolster (regular or high clearance), spring bolster, or rocking front bolster.
BOLSTER STAKE	Adjustable for 38- or 42-inch setting.
SPRINGS	10 leaves.
POLE	Formed steel.
HITCH	Plain clevis.
BALL-AND-SOCKET HITCH	Available as extra equipment.
LONG REACH	Available as extra equipment. See "Wheel Base" above.
AUXILIARY SPRINGS	Available as extra equipment.

(*NOTE: Right-hand and left-hand sides, referred to in this manual, are determined from a position facing the direction of forward travel.*)

(*Specifications and design are subject to change without notice.*)

OPERATION AND ADJUSTMENT

LOAD CAPACITY AND TIRES

The 963 Wagon is designed to operate at tractor speeds with a maximum gross load of 10,000 pounds. The tire manufacturers' maximum recommended speed for implement tires is 20 miles per hour.

If tires other than those recommended are used, be sure they are capable of handling the load capacity of this wagon. With any type of tires do not exceed the wagon's maximum gross load rating of 10,000 pounds.

The load capacity of the 963 Wagon is determined by two factors: the wagon frame design and the tire carrying capacity. Tire carrying capacity is related to tire ply, inflation pressure and road speed. The chart below gives the load capacity of the 963 Wagon based on the tires and wagon limitations.

		Max. Load for Speeds up to 5 mph		Max. Load for Speeds up to 10 mph		Max. Load for Speeds up to 20 mph	
Wagon Model	Wagon Tire Size	Inflation Pressure (psi)	Gross Load* (lbs.)	Inflation Pressure (psi)	Gross Load* (lbs.)	Inflation Pressure (psi)	Gross Load* (lbs.)
963	7.60x15, 6-ply	46	9,200	41	7,500	36	7,000
	7.50x16, 8-ply	49	10,000	49	8,200	44	7,700
	11.00x15, 8-ply	35	10,000	35	8,200	35	7,700

**Gross Load - Indicates combined weight of wagon or forage box, wagon frames and tires plus the weight of the material being hauled.*

Net Load - Net load is the weight of the material hauled. This is determined by subtracting the weight of the base unit from the gross load weight.

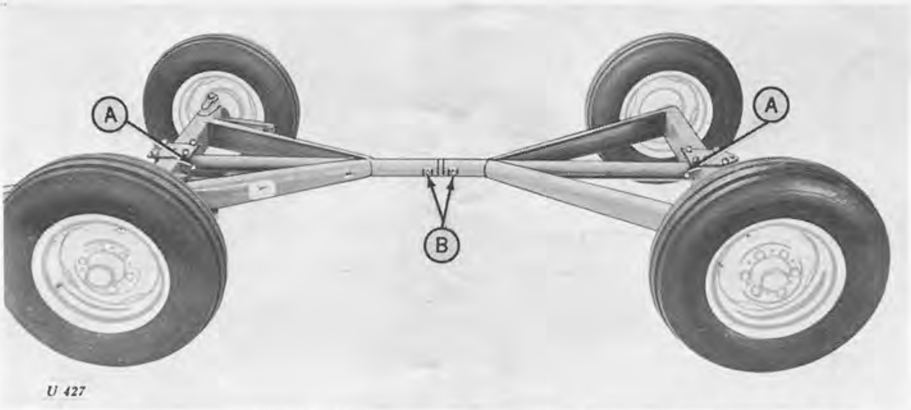
LOAD DISTRIBUTION

Special care must be taken in loading a wagon that is to be operated at high speeds. Poor distribution of weight will cause the wagon to weave in spite of its precision machined steering mechanism, just as an automobile will weave if too much weight is carried over one wheel. Time taken to insure proper weight distribution will pay great dividends in trailing characteristics of the wagon.

CHASSIS

Keep all wagon bolts and connections tight. Looseness in the reach, steering mechanism, or pole will cause the wagon to whip at high speeds and is undesirable even at tractor speeds. Check all connections periodically and especially before operating on the highway.

WHEEL BASE



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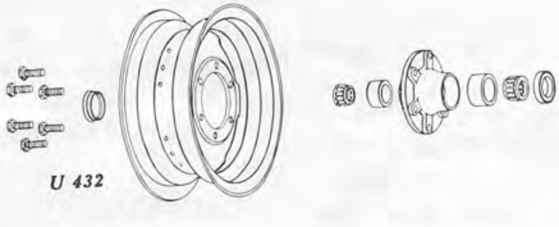
On wagons equipped with the regular reach, the wheel base can be adjusted to 83, 89, 95, 101, 107, 113, 119, 125, or 131 inches by adjusting the telescoping reach in the housings on the front and rear frames. When the long reach is used, longer wheel bases can be obtained as described on page 8. Remove the bolts at "A" and loosen lock nuts and set screws at "B." Determine the wheel base desired and align the holes in the housing with the holes in the reach. Reinstall bolts "A" and tighten set screws "B." Tighten the lock nuts to hold set screws securely.

WHEELS AND BEARINGS



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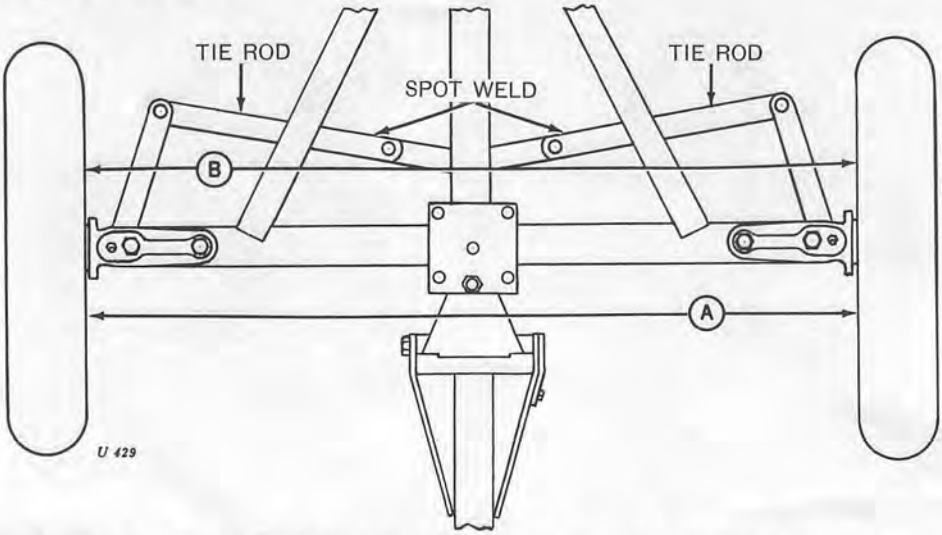
Wheel bolts must be tightened after the wagon has been in use a short time and should be checked periodically thereafter to be sure they are tight.

If wheel bearings become loose, adjust the bearings. Remove the hub cap and take cotter pin out of adjusting nut and axle. Tighten the hub nut until there is a slight drag on the wheel as it is being rotated. Then, gauging by the holes in the axle for the cotter pin, loosen hub nut one notch and reinstall the cotter pin and hub cap.

Remove wheels and bearings once or twice a year and inspect all parts for wear or dirt. Remove, from the hub, any seals showing dirt inclusions and thoroughly clean all parts with diesel fuel. Replace damaged parts and apply new wheel bearing grease to bearings and wheel hubs.

WHEEL TOE-IN



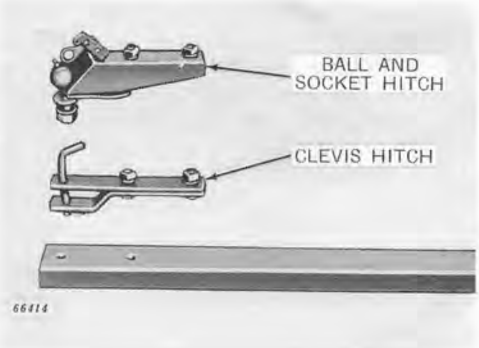
Front wheel toe-in has been set at the factory; however, if further adjustment is required in the future, adjust as shown above. Place the hitch pole in the exact straight forward position and measure between the front wheel rims at the extreme front "A" and rear "B" rim locations. Set the distance "A" at the front to be between zero and 3/8 of an inch, less than the distance "B" at the rear. To do this, find the exact center line of the wagon. Make the distance from the center line to the front and rear of the rim equal on both wheels and then adjust **each** wheel to have 3/16 of an inch **less** distance between the **front** edge of the rim and the center line of the wagon. To make this adjustment, loosen four nuts on the bottom of the tie rods and break spotwelds at the rear of tie rods. When desired adjustment is reached by moving tie rods in slotted bolt holes, tighten four bolts.

CAUTION: Do not adjust for maximum toe-in. Too much toe-in will cause excessive tire wear.

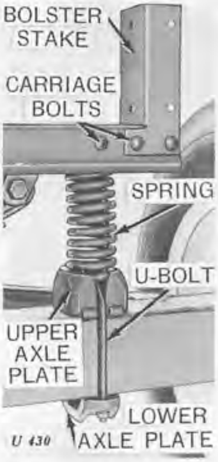
EXTRA EQUIPMENT

BALL AND SOCKET HITCH

A ball and socket hitch, shown above, is available as an extra and attaches to the pole with two large bolts, nuts, and lock washers.



AUXILIARY SPRINGS



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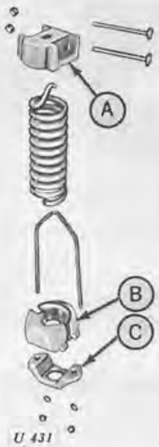

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Auxiliary springs, available for 963 Wagons equipped with spring bolsters, enable the wagon to carry a heavy load with greater stability. These springs are designed to be in both tension and compression. When the bolster tips down on one side, the spring under that side is in compression and keeps the load from going down. The spring under the opposite side is in tension, and pulls down on that side of the wagon, greatly stabilizing the load being carried.

The use of these springs increases the tipping resistance of the 963 Wagon by about 100 per cent. The over-all capacity of the wagon is not increased by the use of these springs.

Spring bolsters on front and back axles should be assembled as instructed on page 13, Step 3, with the swinging spring shackle on the same side to prevent twisting from front to back when under load.

Install auxiliary springs under both ends of each bolster, using extreme inner holes.

Remove bolts securing stakes to permit installation of bolster plate "A."

Locate casting "B" on the front axle over the inner bolt of the spindle housing.

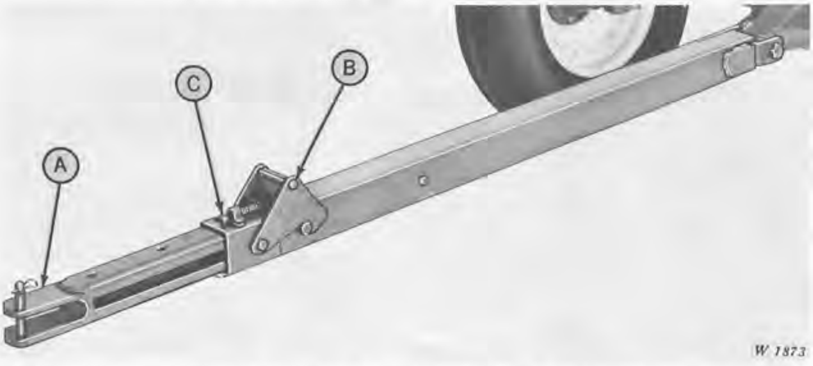
Place U-bolt over casting "B" in grooves and support in raised position while the straight tail of the spring facing the wheel is inserted in a tilted position under U-bolt into top axle plate "B." Hold the spring in this position, place the bolster plate "A" on top and insert the round end of the plate into the bolster.

It is necessary to pry the bolster plate "A" inward against spring pressure until the inner hole in the bolster plate lines up with the holes in the bolster. Secure plate, spring and stakes with long carriage bolts, lock washers and nuts.

Install the lower axle plate "C" and secure with lock washers and two nuts. *NOTE: The same assembly procedure is used for the rear auxiliary springs, except it is only necessary to locate top axle plate "B" with solid face of plate inward, the same distance from the center line of wagon as the front axle.*

When properly assembled, the front right-hand spring will lean outward at the top when not under load; the left-hand spring will lean slightly inward. Under load the springs will straighten.

TELESCOPING ADJUSTABLE HITCH POLE



The telescoping adjustable hitch pole is available as extra equipment to permit easier hookup between the wagon and the towing vehicle. It also eliminates the need for special length hitch poles or pole extensions when lengths longer than standard are required.

To use the easy hook-up feature of this pole, back up the tractor near to, but a short distance in front of the pole clevis "A." Lift the pole latch handle "B" and extend the inner portion of the pole to the tractor drawbar or other desired hook-up point. Attach with the drawbar pin. Back up the tractor to relatch the pole in its original position.

To adjust the length of the hitch pole, remove pin "C" from the latch collar and slide the inner portion of the pole in or out to the desired length. Relock in place with pin "C."

NOTE: The ASAE recommended standard pole length is obtained by using the shortest adjustment available.

To use the telescoping feature of the hitch pole to assist in load distribution when loading from a forage harvester or similar equipment, attach a control rope to the pole latch handle. Extend the rope to the operator's platform on the tractor. With the pole length adjustment set as short as possible, the back of the box is easily filled. When this is completed, stop the forward motion of the tractor to relieve the load on the pole latching device, pull the rope to release the latch and drive forward until the pole extends out to the built-in safety stop. In this extended position it is possible to fill the front of the wagon box.

EXTRA LONG REACH

This reach is available as extra equipment and provides wheel base lengths of 17, 18, and 19 feet.

TRACTOR POLE

A heavy-duty reinforced tractor pole is available as an extra. This pole is installed in the same manner as a regular pole.

LONG REACH

A long reach is available as extra equipment. It is 9 feet 6 inches long and is provided to make possible extra long wheel bases. By using this long reach, wheel base can be set from 119 to 167 inches in 12-inch settings. This long reach can be installed in the same manner as the standard reach.

SAFETY SUGGESTIONS

The safety of the operator is one of the prime considerations in the minds of John Deere engineers when designing farm equipment.

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However, investigation of thousands of farm accidents shows that careless use of farm machinery causes nearly 1/3 of all farm accidents. You can make your farm a safer place to live and work if you observe the safety suggestions given here. Study these suggestions carefully and insist that they be followed by those working with you and for you.

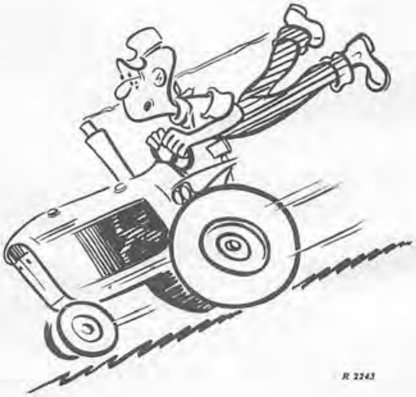
All machinery should be operated only by those who are responsible and delegated to do so.

When pulling the wagon on a road or highway at night or during the day, use accessory lights and devices for adequate warning to the operators of other vehicles. In this regard, check local governmental regulations. Various safety lights and devices are available from your John Deere dealer.

Never drive close to the edge of a creek or ditch.

The rate of tractor travel on hillsides and curves should always be such that there is no danger from tipping.

Clothing worn by tractor or machine operator should be fairly tight and belted. Loose jackets, shirts, or sleeves should not be permitted because of the danger of getting into moving parts.



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Always keep tractor in gear when going down steep grades.

Never ride on tractor drawbar or wagon tongue.

When hitching the wagon to the tractor, back the tractor past the clevis. Then move it slowly forward so that, in making the connection, the tractor will be moving away from you.

Never attempt to adjust, service, or lubricate a machine while any part of the tractor or wagon is in operation.

Be sure the load distribution is well balanced to insure proper trailing.

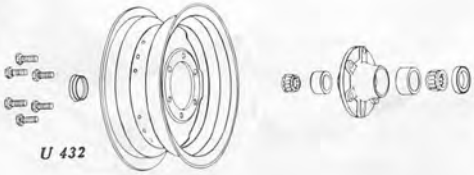
LUBRICATION

The economical and efficient operation of any machine depends on regular and proper lubrication of all moving parts with a quality lubricant. This is especially true of equipment which must operate in wet or dusty conditions and over rough ground. Neglected lubrication quickly leads to reduced efficiency, heavy draft, wear, breakdown, and replacement of parts. Proper lubrication of your wagon will contribute much to longer life and satisfactory service.

Remove wheels and bearings once or twice a year and inspect all parts for wear or dirt. Remove, from the hub, any seals showing dirt inclusions and thoroughly clean all parts with diesel fuel. Replace damaged parts and apply new wheel bearing grease to bearings and wheel hubs.

NOTE: Grease spring swinging shackle on the right-hand side of each spring.

SYMBOL	
50 H	Lubricate every 50 hours of operation.



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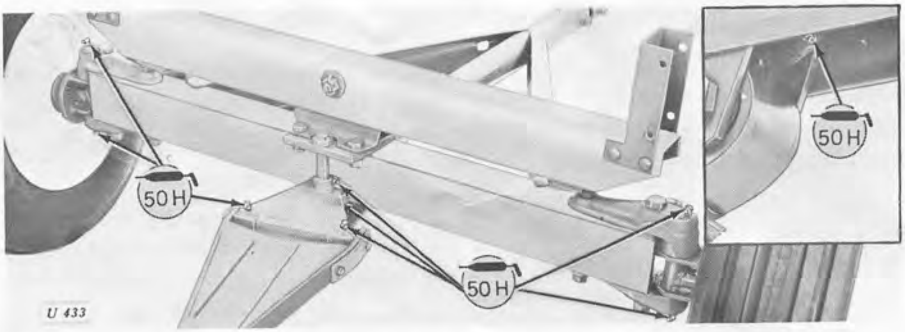

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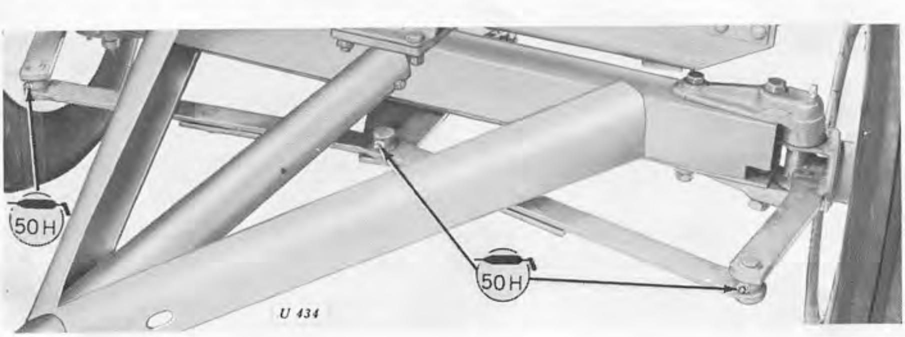

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ASSEMBLY

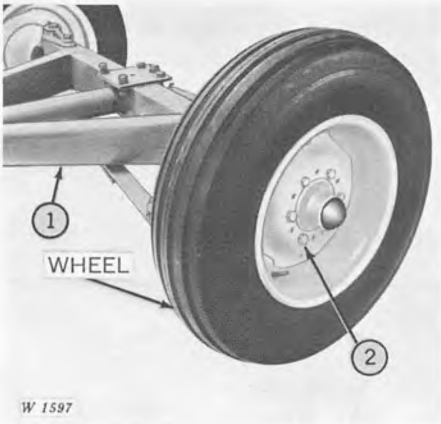
Read all instructions and study all illustrations of the wagon before starting the assembly. Then follow the steps in their numbered sequence.

Separate all bundles and arrange parts conveniently for assembly. Attach all parts loosely; then tighten after all assembly is completed. Grease or oil all bearings and pivot points as you proceed and see that they work freely.

SHIPPING BUNDLES

Quan. Used	Bundle Number	Description	Used On
1	5170 DW	Reach	All Wagons
1	3798 DW	Short Tractor Pole	All Wagons
1	BW 10510	Front and Rear Frames with Hubs	Wagons less Springs
1	BW 10322 W	Bag of Bolts and Hardware	All Wagons
2	4717 DW	Bolster without Spring	Solid Bolster Wagon
2	BW 10734	Bolster with Spring	Spring Bolster Wagon
1	4820 DW	Rocking Front Bolster	Rocking Bolster Wagon
1	5252 DW	Rear Bolster	Rocking Bolster Wagon
2	5251 DW	High Solid Bolster	High Solid Bolster Wagon
1	4150 DW	Long Bolster Stakes	All Wagons
1	4713 DW	Short Bolster Stakes	Optional in Place of 4150DW
4	JD 1091	15x6L Wheel and Hub, less Tire	All Wagons
4	BW 10324 W	Wheel, with Tire and Tube, 7.50x16, 8-Ply	Optional
4	BW 10323 W	Wheel, with Tire and Tube, 7.60x15, 6-Ply	Optional
4	BW 10748	Wheel with Tire and Tube, 11.00x15, 8-Ply	Optional
4	JD 1093	14x6K Wheel and Hub, less Tire	Optional
4	JD 1986	16x6L Wheel and Hub, less Tire	Optional
4	JD 1758	15x10LB Wheel and Hub, less Tire	Optional
1	4837 DW	Long Reach	Optional in Place of 5170DW
1	4864 DW	Long Reinforced Pole	Optional in Place of 3798DW
1	4880 DW	Auxiliary Spring Attachment	Extra on All Wagons
1	4037 DW	Ball and Socket Hitch	Extra on All Wagons
1	AW 11732 W	Reach, 15-Ft. 8-In.	Extra on All Wagons
1	BW 10763	Adjustable Pole	Extra on All Wagons

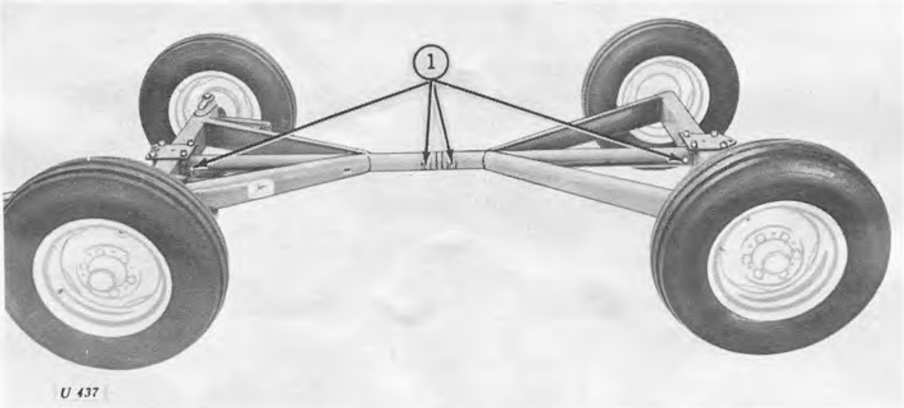
WHEELS



1. Place the front and rear frames on blocks high enough to mount the wheels on the hubs.

2. Bolt wheels to hubs with concave side of wheel next to hub.

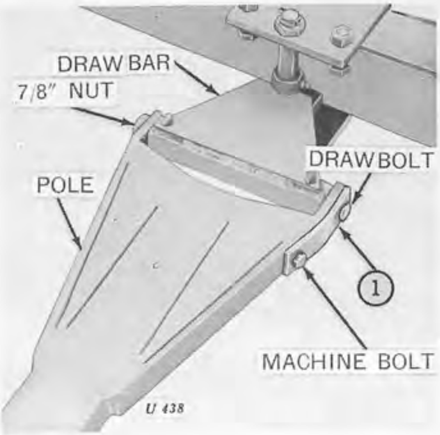
FRONT AND REAR FRAMES



1. Remove cap screws from each end of the reach and loosen set screws and lock nuts in front and rear frames. Insert reach into front and rear frame tubes. Align holes through reach housings and reach at the desired wheel base setting. With the regular reach wheel base settings of 83 to 131 inches are available in 6-inch steps. With the long reach settings of 119 to 167 inches are available in 12-inch steps. Settings of 17, 18, or 19 feet are available with the extra long reach. Install cap screws with lock washers and nuts. Tighten set screws and lock nuts.

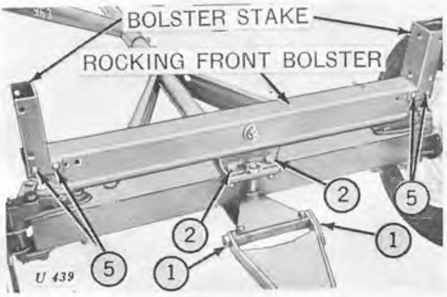
NOTE: It is important that set screws and lock nuts be kept as tight as possible at all times.

POLE AND BOLSTERS



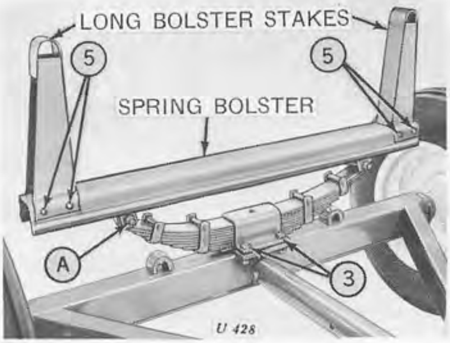
1. Attach the pole to the drawbar plate securing with the 7/8-inch drawbolt, nut, and a 1-1/4- x 1/2-inch machine bolt.

NOTE: The wagon can be equipped with any one of four different types of bolsters. Three types are shown here. Follow the instructions that apply to your wagon.



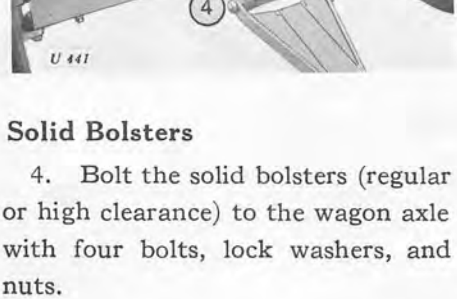
Rocking Front Bolsters

2. Bolt the rocking front bolster to the wagon axle with four bolts, lock washers, and nuts. Bolt the matching solid bolster to the rear gear with four bolts, nuts, and lock washers.



Spring Bolsters

3. Bolt the spring bolsters to the wagon axles with four bolts, lock washers, and nuts. Position the bolster on the gear so the swinging spring shackle "A" is toward the right side of the wagon and the solid shackle is toward the left side.



Solid Bolsters

4. Bolt the solid bolsters (regular or high clearance) to the wagon axle with four bolts, lock washers, and nuts.

Bolster Stakes

5. Bolt bolster stakes to the bolster with four bolts, lock washers, and nuts. Bolster stakes can be set for widths of 38 to 42 inches.

MEMO

MEMO

INFORMATION ABOUT UNITED STATES AND CANADIAN WARRANTY

The warranty on this equipment comes from your John Deere dealer and is contained in the purchase agreement you sign. If you are purchasing the equipment new, the dealer's warranty ordinarily contains the following provisions.

> He agrees to replace parts which prove defective with normal and proper use within TWELVE MONTHS from date of delivery to you.
>
> He has no obligation to replace parts whose failure is related to modification or alteration of this equipment in ways not recommended by the manufacturer. It is your obligation to bring the equipment to his service shop or, if this is not possible, to reimburse him for his travel expense in fulfilling the warranty.

The dealer's warranty in the purchase agreement ordinarily does not cover batteries, rubber tires, radios, engines not of John Deere manufacture or used equipment, and there is no warranty or other obligation on such items unless your dealer has delivered to you a certificate or other written statement which is separate from the purchase agreement and is designated "Warranty."

Certain other limitations on the obligation of the dealer and of others may be contained in the warranty in your purchase agreement.

Be sure to read the "Warranty and Agreement" in your purchase agreement, or your separate "Warranty," as there is no other warranty obligation, express or implied, including the implied warranties of merchantability and fitness, on this equipment.

Note: The above summary of the provisions ordinarily found in the dealer's warranty was correct on the date of printing of this manual. The warranty you actually receive governs in case of any inconsistency with the summary.

Dependable John Deere Parts and Service

A Bedrock Backing of Your Decision to Go with The Long Green Line

Behind every product in *John Deere's Long Green Line* stands a reliable John Deere dealer ready to serve you in time of need with dependable parts and service.

The seasons run early in his Parts Department—his well-stocked shelves of seasonal *(and Genuine)* John Deere Parts will help hold your downtime to a minimum. Service is another phase of his business that is vital to you. Working with modern equipment and guided by factory-prepared service manuals, his service specialists can pinpoint trouble with little delay and eliminate it without costly waste effort.

You can move through your entire year's operations comfortably assured that your John Deere dealer has anticipated your needs and stands ready to help solve your problems. Your competent dealer is one more assurance of the greater satisfaction and value you'll enjoy when you invest in *The Long Green Line of John Deere Equipment.*

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